



PERFORMANCE PLASTICS PRESS RELEASE

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RadiciGroup and Röchling Automotive team up to develop an innovative high heat-resistant polyamide

A new product for turbo pipes was presented during the 21st Plastic Materials Congress

At the 21st Plastic Materials Congress, entitled "*Chiedilo alla Plastica*" [*Turn to Plastics*], held on 17 November in Varese, Italy, RADICIGROUP PERFORMANCE PLASTICS introduced its latest innovation, a new **blow-moulding-grade polyamide** capable of standing up to continuous exposure to hot air at temperatures of up to **230°C**. The material was developed for, and in collaboration with, RÖCHLING AUTOMOTIVE. Such a high level of heat resistance opens up new opportunities in the metal replacement field, where parts are subjected to severe environmental conditions.

The new material belongs to RadiciGroup's **RADILON®** range of polyamide engineering thermoplastics, products that have a wide variety of uses in the automotive, electrical/electronics, industrial goods and consumer goods sectors.

The **RADILON®** range includes both traditional formulations and, as in the case of the RÖCHLING AUTOMOTIVE partnership project, **specialties with high innovative content**, such as polyamides for continuous operation at high temperatures, materials specifically designed for metal replacement applications and materials featuring excellent resistance to chemical agents.

The new product is a copolymer with a semi-aromatic component, which, in combination with other additives used to retard the thermal oxidation process, endows the material with very high heat resistance properties. Furthermore, the formulation ensures high melt strength and good blow-mouldability.

Trials and validation tests performed in the RÖCHLING AUTOMOTIVE laboratories have allowed for quantifying some of the advantages of the new product:

- ✓ **Weight reduction: 15%**
- ✓ **Reduced energy consumption in production: 5-7%** (lower process and mould temperature)
- ✓ **Less expensive moulds** (moulds last longer thanks to the lower abrasion of PA compared to PPS)
- ✓ **Enhanced impact resistance** compared to PPS (Charpy un-notched impact strength at 23°C: + 72%; Charpy notched impact strength at 23°C: + 52%)

For the automotive industry – where there is a very clear trend towards smaller but more powerful engines, lower CO₂ emissions, longer vehicle useful life and less under-the-bonnet space –, the new PAs must be designed to provide good heat resistance at high temperatures, good processability and competitive pricing.

The know-how acquired by RadiciGroup Performance Plastics in the field of polyamide engineering plastics and its synergistic collaboration with the RadiciGroup Chemicals Business Area, enables the compounder to take on these challenges and offer concrete solutions to the market demand for innovation, customization, flexibility and performance.



Commenting on the collaboration with RÖCHLING AUTOMOTIVE to develop turbo air pipes to be used by a major car manufacturer, **Erico Spini**, Marketing and Application Development Director Europe of RadiciGroup Plastics, stressed that “*collaboration and continual interaction with*

our customers give rise to customized products that are unique and able to ensure the best performance and best characteristics for any specific application need”.

Marco Barbolini, intake systems project manager of Röchling Automotive, expressed his satisfaction with the RadiciGroup Performance Plastics partnership: “*We are very satisfied, because we found RadiciGroup to be an excellent partner in the development of a new material which fills a gap in the market offering and combines high performance characteristics with high heat resistance, while maintaining the good processability that is typical of polyamides.*”

RADICIGROUP PERFORMANCE PLASTICS is a leading worldwide producer of a broad range of engineering plastics and copolymers: polyamide (RADILON® - RADISTRONG® - RADIFLAM® - HERAMID®), PBT (RADITER®), TPE (HERAFLEX®) and POM (HERAFORM®). These are recognized market brands standing for technical performance, reliability and sustainability. A global network of production and sales sites, in Italy and the rest of Europe, North America, South America and Asia, allows RadiciGroup Performance Plastics to supply its customers with products and services that are the result of its long experience and exceptional know-how gained in the polyamide business. All products are developed to best respond to the needs of markets such as automotive, electrical/electronics, household appliances and industrial, the main fields of application of RadiciGroup engineering plastics.

RÖCHLING AUTOMOTIVE: Products and solutions for lower fuel consumption and increased comfort. With more than 4,200 employees, Röchling Automotive is a partner for integrated system solutions in the areas of aerodynamics, powertrain and new mobility. The company is positioned around the globe with 39 offices on 4 continents, and its engineers, based in 4 engineering centres, work with almost all vehicle manufacturers to solve the challenges of the automotive industry by reducing emissions, weight and fuel consumption. Aerodynamics. Through the reduction of driving resistance, Aerodynamics helps to lower CO2 emissions and energy consumption. Röchling Automotive's lightweight underbody panels and active grille shutter systems set industry benchmarks.

Powertrain. The systems surrounding the engine also play a role in further reducing emissions. Air intake systems, water systems and exhaust aftertreatment using SCR tank systems are Röchling Automotive innovations that ensure greater efficiency.

New Mobility. New automotive energy sources such as battery systems and fuel cells drive the automotive industry and Röchling Automotive ahead. The firm's new mobility solutions can currently be found in vehicles from various manufacturers. Röchling is focused on new concepts such as inductive charging systems, while also vigorously researching lightweight solutions. It links and combines competences to provide customers, locally and globally, with full service at the highest quality, true to its motto "Boost your efficiency".



RADICIGROUP - With 2,985 employees, sales revenue of EUR 1,011 million, and a network of production and sales sites located in Europe, North America, South America and Asia, RadiciGroup is one of the world's leading producers of a wide range of chemical intermediates, polyamide polymers, engineering plastics, synthetic fibres and nonwovens. These products are the result of the Group's outstanding chemical know-how and are used in a variety of industrial sectors such as: AUTOMOTIVE – ELECTRICAL AND ELECTRONICS – CONSUMER GOODS – APPAREL – FURNISHINGS – CONSTRUCTION – HOUSEHOLD APPLIANCES – SPORT. With its business areas - **Specialty Chemicals, Performance Plastics and Synthetic Fibres & Nonwovens** (Performance Yarn, Comfort Fibres and Extrusion Yarn), RadiciGroup is part of a larger industrial group that also includes textile machinery (ITEMA), energy (GEOGREEN) and hotel businesses (SAN MARCO).

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